

REMARKS

1. Claims 10, 13 and 18 have been cancelled. Claims 1-9, 11-12, 13-17 and 19-25 are now pending in this application. Since at least claim 1 is considered generic, Applicant has amended all pending claims to put them in proper US format for prosecution.
2. The Examiner indicated that claims 5, 7, 10, 13 and 18 would be allowable if rewritten in independent form including all limitations of the base claim and any intervening claims. New claims 21-25 have been added. Claim 21 corresponds to original claim 5 written as an independent claim, including the limitations of the base and intervening claims. Claim 22 corresponds to original claim 7 written as an independent claim, including the limitations of the base and intervening claims. Claims 23-25 correspond to original dependent claims 10, 13 and 18, except that they are dependent on claim 21. Claims 10, 13 and 18 have been cancelled since they are equivalent to new claims 23-25, respectively.
3. Applicant requests reconsideration of the withdrawal of claim 15 as being directed to a non-elected species. Although this claim reads on means of correction (38, 40 and 42) that appear in Figure 3, the specification discloses that the watch in Figure 4 is capable of being supplemented by the mechanism in Figure 3, which does incorporate parts 38, 40 and 42. (See in general paragraphs 0035 through 0040, and in particular paragraph 0040 in the attached substitute specification.)
4. Claims 1, 2 and 8 were rejected under 35 USC 102(b) as being anticipated by Balch (US 1,459,710). Applicant requests reconsideration of these rejections for the reasons set forth below.

Balch refers to an instrument for determining the relation between sidereal and mean solar time. (See page 1, lines 10-12, of Balch.) If we examine the clock described by Balch, it comprises means to display mean solar time and sidereal time, which is time determined relative to fixed stars. "Mean solar time"

is usually no longer used since the concept of time zones was developed at the beginning of twentieth century.

The duration of a day of sidereal time is about 23 hours 56 minutes 4.1 seconds of mean solar time. With these two times, it is not possible to solve the problem described in the application being prosecuted herein, which deals instead with civil time and true solar time and the ability to point the watch in the direction of North and, by observing the shadow cast on the face of the watch, obtain the correct true solar time anywhere in a time zone.

The "true solar time" is defined by the position of the sun in the sky and this time is given by a sundial. The duration of one day according to true solar time as measured between two crossings of the zenith by the sun varies during the year. As a time measured by a clock is constant, it was necessary to define another time having the same length during all the year. Prior to the creation of time zones, this constant time was the mean solar time. After the creation of time zones, this constant time became "civil time", also known as clock time. The difference between mean solar time and true solar time is defined by the "equation of time", and this difference varies during the year between +14 minutes 20 seconds (in February) and -16 minutes 23 seconds (in October). In our case, it is possible to define the true solar time and consequently the position of the sun in the sky as we also know the equation of time, which may be found at http://en.wikipedia.org/wiki/equation_of_time.

The civil time is defined now by the atomic time and is the same throughout one time zone. To define the longitude at an observed place, it is necessary and sufficient to know the following information: the civil time of this place (given by a watch for a given time zone), the position of the sun in the sky with reference to the geographical (or true) North, and the equation of the time.

The civil time also permits us to know the difference between the longitude of Greenwich, which is the reference, and the longitude of the middle of a time zone. The position of the sun in the sky permits us to know the true solar time.

To know the longitude, it is necessary to correct this true solar time by the equation of time.

Another approach is also possible in that, if we know the longitude of a place, the civil time, the equation of time and the geographical North, it is possible to define the true solar time. Also, if we know the civil time, the longitude of a place, the equation of the time and the position of the sun in the sky, it is possible to define the geographical North.

As the watch defined in the present application displays civil time, solar time and the equation of time, it is possible to define the direction of the geographical North. If we moreover know the time zone where we are, it is also possible to define the longitude. To realize these determinations in good conditions, it is necessary to have means of correction as claimed in claim 1, which permits independent adjustment of the solar time and the civil time display means. It clearly follows from this and the above explanations that the present invention is not disclosed or made obvious by the Balch reference.

In view of the foregoing amendments and remarks, it is believed that all of the claims as now presented are allowable under 35 U.S.C., Sections 102, 103 and 112. Accordingly, reconsideration of the application and allowance of these claims are respectfully requested. If for any reason the application is not in condition for examination and allowance, the undersigned would appreciate a call to the telephone number given below, or an e-mail to the address given below.

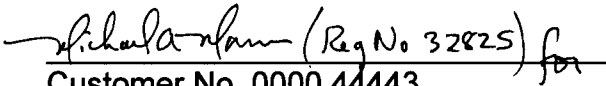
DEPOSIT ACCOUNT AUTHORIZATION

It is not believed that any fees, other than those presented herewith, are required. However, in the event that further extensions of time are necessary, then such extensions of time are hereby petitioned under 37 CFR 1.136(a), and any additional fees required for consideration of this paper, including fees for the net addition of claims, are hereby authorized to be charged to our Deposit Account No. 080719.

If any designated extension fees, or other designated fees, are not required or are in excess of the amount required, the Director is hereby authorized to credit any such overpayment to Deposit Account No. 080719.

Respectfully submitted,

Date: 7/18/2007

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